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ENVIRONMENT

Subject:

DRAFT Addendum - PCB Cleanup Completion Report, College for Certain,  
1009 66th Avenue, Oakland, California

Dear Ms. Santos:

On behalf of College for Certain, LLC (CFC), ARCADIS U.S., Inc. (ARCADIS) has prepared this report to provide additional information regarding the remediation of soil containing polychlorinated biphenyls (PCBs) at the Former Pacific Electric Motors Facility located at 1009 66th Avenue in Oakland, California (Site; Figures 1 and 2). The majority of the environmental work conducted was conducted by LFR Inc. (LFR), on behalf of CFC. LFR was purchased by ARCADIS in December 2008 and became fully integrated into ARCADIS in January 2010.

The remedial tasks conducted at the Site were completed in accordance with 40 Code of Federal Regulations (CFR) §761.125(c)(5) that describes the implementation of the Toxic Substances Control Act (TSCA) Self-Implementing Cleanup Plan (SICP). The scope of work for the SICP was presented in a letter from LFR to the U.S. Environmental Protection Agency (U.S. EPA), dated October 23, 2009 and prepared for Aspire Public Schools (Aspire; LFR 2009c). ARCADIS submitted a report entitled "Implementation of the Toxic Substances Control Act Self-Implementing Cleanup Notification at the Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California" on August 12, 2011 (Implementation Report; ARCADIS 2011b). The Implementation Report documented the remedial actions that took place as outlined in the SICP.

Following the submittal of the Implementation Report, additional remedial tasks associated with the SICP were conducted at the Site as part of the redevelopment of the Site from November 2010 to August 2011. In addition, ARCADIS prepared and submitted a draft Operations and Maintenance Plan (O&M Plan) and deed notice for the Site in October 2011. Following review of these draft documents, the U.S. EPA requested the following information to document the additional remedial tasks that were completed at the Site:

Date:

June 29, 2012

Contact:

Ron Goloubow

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Our ref:

EM009155.0009.00002

Imagine the result

- Summary of additional remedial actions conducted following the submittal of the Implementation Report;
- Summary of mitigation measures;
- Soil sample laboratory analytical data (Attachment 1);
- Revised health risk screening calculations (Attachment 2);
- Fill material source information and laboratory analytical data (Attachment 3);
- Waste disposal information (Attachment 4); and
- Revised figures showing:
  - Details regarding the surface cap, the landscaped areas, and the redevelopment plan (Figure 3);
  - Survey coordinates for the location of soils beneath the cap containing PCBs above the cleanup level (Figure 3); and
  - Areas where cleanup levels were achieved, where the cleanup levels were not achieved, and where soils contaminated with PCBs above the cleanup level were encapsulated (Figure 4).

Therefore, this report, along with the Implementation Report, provides a comprehensive summary of the SICP.

#### **Additional Remedial Actions Conducted at the Site after the Submittal of the Implementation Report**

Post-demolition surface soil samples (PD-1 to PD-7) were collected in May 2010 within the footprint of the two buildings that were demolished at the Site (see Figure 3). The samples were analyzed for PCBs. As indicated in the table below, six of the post-demolition surface soil samples contained PCBs at concentrations that exceeded the site-specific cleanup goal of 0.130 milligrams per kilogram (mg/kg). Laboratory reports for these samples are included as Attachment 1 to this letter. As requested by U.S. EPA, Figure 3 illustrates the locations of the samples collected at

the Site that contained concentrations of PCBs greater than and less than the site-specific cleanup goal.

**Post-Demolition Surface Soil Samples**  
*concentrations in mg/kg*

Sample ID	Notes	Date	PCBs
PD-1	1	05/28/10	<b>0.372</b>
PD-2	1	05/28/10	<b>0.940</b>
PD-3	1	05/28/10	<b>0.344</b>
PD-4	1	05/28/10	<b>0.321</b>
PD-5	1	05/28/10	<b>0.209</b>
PD-6	1	05/28/10	<b>0.535</b>
PD-7		05/28/10	0.100
<b>REGULATORY CONCENTRATIONS</b>			
Soil Cleanup Goal			0.130

**Notes:**

1 - Concentrations of PCBs are reported as a combination of Aroclor 1254 and 1260.

Samples analyzed by Curtis & Tompkins Ltd. for PCBs using EPA Test Method 8082.

Initially, soil represented by these post-demolition surface soil samples was to remain in place. However, in order to accommodate the redevelopment of the Site, soil in the vicinity of three of the sample locations (PD-3, PD-4, and PD-5) required excavation. As described in the letter from ARCADIS to U.S. EPA dated September 15, 2010 (ARCADIS 2010b), instead of hauling this excavated soil to a landfill for disposal, the soil that was excavated at these locations was encapsulated within the area of excavation titled PCB EXC-3 (see Figure 3). As requested by U.S. EPA, the excavated soil was placed in Geotextile fabric and placed approximately 3 feet below grade at excavation area PCB EXC-3. A total of approximately 20 to 25 cubic yards of soil from the three areas was encapsulated.

An area measuring approximately 10 feet long by 10 feet wide by 2 feet below grade was excavated at each of the three locations (PD-3, PD-4, and PD-5; see Figure 3). In accordance with the methods provided in the SICP, confirmation soil samples were collected from the sidewalls and the base of each excavation (a total of five soil samples from each area) and analyzed for PCBs (see Figure 3). The analytical results for these samples are provided in the following table. As indicated, PCBs were not detected in these confirmation soil samples at concentrations above the

site-specific cleanup goal. Laboratory reports for these samples are included as Attachment 1 to this letter.

**Post-Demolition Excavation  
Confirmation Soil Samples**  
*concentrations in mg/kg*

Sample ID	Notes	Date	PCBs
PD3-EXC-NORTH 2'		10/27/10	<0.012
PD3-EXC-SOUTH 2'		10/27/10	<0.012
PD3-EXC-EAST 2'		10/27/10	<0.012
PD3-EXC-WEST 2'		10/27/10	<0.012
PD3-EXC-BOTTOM 2'		10/27/10	<0.012
PD4-EXC-NORTH 2'		10/27/10	<0.012
PD4-EXC-SOUTH 2'		10/27/10	<0.012
PD4-EXC-EAST 2'		10/27/10	0.016
PD4-EXC-WEST 2'		10/27/10	<0.012
PD4-EXC-BOTTOM 2'	1	10/27/10	0.063
PD5-EXC-NORTH 2'		10/27/10	<0.012
PD5-EXC-SOUTH 2'		10/27/10	<0.012
PD5-EXC-EAST 2'		10/27/10	<0.012
PD5-EXC-WEST 2'		10/27/10	0.030
PD5-EXC-BOTTOM 2'		10/27/10	0.025
<b>REGULATORY CONCENTRATIONS</b>			
Soil Cleanup Goal			0.130

**Notes:**

1 - Concentrations of PCBs are reported as a combination of Aroclor 1254 and 1260.

Samples analyzed by TestAmerica Laboratories Inc. for PCBs using EPA Test Method 8082.

## Revised Health Risk Screening Calculations

U.S. EPA requested that the analytical results for the 15 excavation confirmation soil samples collected in October 2010 be included in the health risk screening calculations conducted for the Site. The revised spreadsheets that were used to calculate the revised 95% upper confidence limit (UCL) and the Estimated Risk Based on Representative Concentrations are provided in Attachment 2 of this letter. As indicated, the revised 95% UCL for the concentration of PCBs remaining in place is 0.167 mg/kg and the estimated risk associated with this concentration is  $1.3 \times 10^{-6}$  and the estimated hazard index (HI) for PCBs in soil is 1.3.

As provided in the Implementation Report, a human health risk screen was performed considering the soil that was left in place after the removal actions in the 0 to 2 feet below ground surface interval. This included analytical data for soil samples collected during the site characterization activities and post-removal confirmation soil sampling events. Data associated with soil that was removed from the Site (i.e., excavated, transported, and disposed of off-site) were removed from the data set. Therefore, the data set consists of only data associated with soils remaining on-site. A list of the PCB in-place soil samples used for this evaluation is presented in Attachment 2.

Exposure point concentrations (EPCs) of the post-removal constituents of concern (COCs) were used to perform the human health risk screen. The EPCs for the selected COCs were compared to Recommended Cleanup Goals presented in the Revised Corrective Action Plan (CAP; LFR 2009a). The U.S. EPA software ProUCL Version 4.00.05 was used to perform the statistical evaluation. EPCs were calculated for COCs with a minimum of six detections. Maximum detected concentrations were used for COCs with fewer than six detections.

Details on the statistical evaluation and representative concentrations are included in Attachment 2 to this letter.

## Health Risk Screen

Comparisons were performed as follows for carcinogenic compounds:

$$\text{RiskEPC} = \frac{\text{EPC}_{\text{soil}} \times \text{T}_{\text{Risk}}}{\text{CUG}}$$

Where:

RiskEPC = estimated risk for COC (target =  $10^{-6}$ )  
EPC<sub>soil</sub> = exposure point concentration for soil  
T<sub>Risk</sub> = target risk used for the CUG calculation ( $10^{-6}$ )  
CUG = cleanup goal presented for the COCs in CAP

Comparisons were performed as follows for non-carcinogenic compounds:

$$\frac{\text{HazardEPC} = \text{EPC}_{\text{soil}}}{\text{CUG}}$$

Where:

Hazard EPC = estimated risk for Site (target = 1)  
EPC<sub>soil</sub> = exposure point concentration for soil  
CUG = cleanup goal presented for the COCs in CAP

The estimated risk based on the screen is  $1.3 \times 10^{-6}$ . PCBs are the only in-place COCs with an estimated risk greater than  $1 \times 10^{-6}$ . The estimated HI is 1.3. PCBs are the only in-place COCs with an estimated HI greater than 1.

### Mitigation Measures

This section of the letter provides a summary of the mitigation measures that have been implemented at the Site.

#### TSCA Cap

In accordance with a letter from the U.S. EPA to CFC dated June 16, 2011 (U.S. EPA 2011), the PCB-affected soil has been mitigated by installing a “modified TSCA cap” across the Site. Figure 3 is a map that illustrates the redevelopment plan for the property, the modified TSCA cap, and the locations of the soil samples that failed the cleanup criteria for PCBs. Figure 4 is a map that illustrates all in-place PCB soil samples. Figures 5A, 5B, and 5C illustrate in-place PCB soil samples for each area of the Site, in greater detail.

The cap has been installed at the Site as described below (from the bottom up to the ground surface).

#### **Trash Enclosure Area**

- Native soil
- 18 inches of cement-treated native soil
- 6 inches of imported aggregate base rock
- 6 inches of Portland cement concrete

#### **Pedestrian Walkway Areas - Concrete**

- Native soil
- 18 inches of cement-treated native soil
- 4 inches of imported aggregate base rock
- 4 inches of Portland cement concrete

#### **Vehicle Traffic Areas**

- Native soil
- 18 inches of cement-treated native soil
- 10 inches of imported aggregate base rock
- 3 inches of asphalt concrete

#### **Parking Areas**

- Native soil
- 18 inches of cement-treated native soil
- 8 inches of imported aggregate base rock

- 2.5 inches of asphalt concrete

**Pedestrian Walkway Areas - Asphalt**

- Native soil
- 18 inches of cement-treated native soil
- 4 inches of imported aggregate base rock
- 2 inches of asphalt concrete

**Landscaped Areas**

- Native soil
- 18 inches of cement-treated native soil
- 10 inches of native soil
- 12 inches of imported top soil

As requested by U.S. EPA, samples of the imported soil to be used in the landscaped areas were collected and analyzed in accordance with the Soil Sampling Plan for imported soil for landscaping, dated June 24, 2011 (ARCADIS 2011a). According to information provided by the general contractor, the soil used in the landscaped areas was imported to the Site from West Coast Sand and Gravel from R&B Materials Supply located in Manteca, California.

Two soil samples and one duplicate soil sample of the imported soil were collected and analyzed for PCBs, lead, arsenic, total petroleum hydrocarbons as gasoline (TPHg), and benzene on August 4, 2011. The analytical results for these samples are provided in the laboratory report that is included as Attachment 3. Lead and arsenic were detected in each of the three soil samples and PCBs were detected in one sample at 0.024 mg/kg. TPHg and benzene were not detected at concentrations above the laboratory reporting limit (see Attachment 3). The results of these analyses indicated that the concentrations of lead, arsenic, and PCBs detected in the soil samples were less than the cleanup goals established for the Site and the soil was imported to the Site.



**TSCA Cap Inspection**

The TSCA cap will be visually inspected annually for cracks or differential settlement. The inspection procedures are described in detail in the draft O&M Plan and deed notice for the Site dated October 2011. The inspections will be conducted by a California-licensed Engineer or Geologist. The results of the inspections will be documented in a brief summary letter that will include photographs and a map. The letters will be transmitted to the U.S. EPA for review and comment.

All identified cracks or settlements will be repaired by a California-licensed General Engineering Contractor to provide equipment and experienced personnel to conduct the excavation work. The personnel will have the appropriate Occupational Safety and Health Administration (OSHA) training for sites with affected soil and groundwater (HAZWOPER). Repair activities will be directed by individuals working under the direct supervision of a California Professional Geologist or Professional Engineer. Soil generated through the repair activities will be handled in accordance with the soil management plan that was included in the grading plan for this project. The repairs will be documented in a brief summary letter that will include photographs and a map.

**PCB-Affected Soils and Materials Disposal**

Because this Site contained PCB-affected soil in several locations at concentrations greater than 50 mg/kg, the U.S. EPA was included to provide regulatory oversight for the TSCA issues related to the PCB-affected soil. Specifically, samples collected from the following areas contained concentrations greater than 50 mg/kg: excavation EXC-PCB1 and the area near the excavation that took place in 1992 (within excavation EXC4). The removal action for the PCB-affected soil was documented in the letter report dated August 12, 2010 (ARCADIS 2010a).

The final extent of each excavation at the Site was determined by a combination of site-representative concentrations (95% UCL of residual concentrations). The original expected total volume of known affected soil to be excavated was approximately 1,250 in-place cubic yards. The results of the confirmation soil samples collected from excavation areas EXC1, EXC2, EXC4, PCB-EXC1, PCB-EXC2, PCB-EXC3, and PCB-EXC4 resulted in a significant increase in the volume of soil that was removed from the Site. A total of approximately 8,400 tons of soil was removed from the Site.

The excavated soil from the Site was staged on-site in stockpiles pending characterization for disposal; soil from excavation EXC-PCB1 and the area near the excavation that took place in 1992 (within excavation EXC4) were combined. This soil was transported and disposed of as PCB Remediation Waste at Waste Management's Kettleman Hills Landfill. The soil from excavations EXC-PCB2, EXC-PCB3, EXC-PCB4, and EXC4 were transported and disposed of at Republic Services Keller Canyon Landfill located in Pittsburg, California. Due to elevated lead soluble threshold limit concentration (STLC) results in soil samples collected from the combined excavation EXC1 and EXC2 (located near 66<sup>th</sup> Avenue), this soil was characterized as non-Resource Conservation and Recovery Act (RCRA) solid hazardous waste and transported for disposal at Waste Management's Kettleman Hills Landfill. The table below identifies soil disposal classifications, quantities, and destinations for PCB-affected soil. Copies of the PCB-affected soil waste manifests are included in Attachment 4, in addition to weight summary reports for non-PCB-affected soils from the landfills. Note, copies for three manifests for PCB-affected soil are outstanding, and have been requested by ARCADIS from Kettleman Hills Landfill. These include the following manifest numbers: 005417521JJK, 005417522JJK, and 005417534JJK. The soil included in these shipments is accounted for in the table below, and the PCB-affected soil summary table included in Attachment 4.

**Soil Disposal Summary**

<b>Destination</b>	<b>Waste Classification</b>	<b>Volumes (tons)</b>
Kettleman Hills Landfill	Non-RCRA (PCB- TSCA)	1,280.85
Kettleman Hills Landfill	Non-RCRA (Lead)	1,977.83
Vasco Road Landfill	Non-Hazardous	5,102.04
Keller Canyon Landfill	Construction Debris (includes building demolition debris)	2,476.60

In addition to the soil removal, PCB-affected building materials were also removed from the Site. As requested by the U.S. EPA, samples of the building materials that comprised the two warehouses that were demolished were collected in October 2009. These samples were collected and analyzed in accordance with the Sampling Plan for Building Materials provided in the letter from LFR to the U.S. EPA, dated October 19, 2009 (LFR 2009b).

Samples from building materials that included window caulk, paint, roofing materials, and concrete were collected and submitted to a state-certified laboratory for PCB analysis using U.S. EPA Test Method 8082. The laboratory reports for these samples are included on the CD that accompanies this report (Attachment 1). PCBs were present in concentrations above the laboratory reporting limits in the samples

collected from window caulk, paint, and concrete at the Site. The demolition debris from the demolition of both structures, including but not limited to wood, metal, glass, and concrete, was consolidated on-site and transported for disposal as bulk PCB remediation waste at Republic Services' Keller Canyon Landfill located in Pittsburg, California. Based on the weight tickets provided by Republic Services, a total of 2,476.60 tons comprised of bulk PCB product waste (comprised of window caulking and other building materials) and PCB remediation waste (concrete affected by PCBs) was disposed of at the Keller Canyon Landfill. The majority of this material was concrete. The weight summary report for these materials is provided in Attachment 4.

We at ARCADIS appreciate working with you and your team and look forward to bringing this project to closure with the U.S. EPA and Alameda County Department of Environmental Health in the very near future.

Sincerely,

ARCADIS U.S., Inc.

Ron Goloubow, P.G.  
Principal Geologist

Copies:

Kahlmus D. Eatman - Pacific Charter Schools

Mala Batra - Aspire Public Schools

Paresh Khatri - Alameda County Department of Environmental Health

Enclosures:

Figure 1 - Site Vicinity Map

Figure 2 - Site Plan

Figure 3 - Site Plan Showing Pavement Plan/Cap and In-Place Soil Exceeding PCB Cleanup Goals

Figure 4 - In-Place Soil Samples Compared to PCB Cleanup Goals

Figure 5A - Excavations PCB-1 and PCB-2 Soil Samples Compared To PCB Cleanup Goals

Figure 5B - Excavations EXC-1 and EXC-2 PCB Concentrations

Figure 5C - Excavations EXC-4, PCB-3, and PCB-4 PCB Concentrations

Attachment 1 - Laboratory Analytical Data for Soil Samples (provided on CD)

Attachment 2 - Revised Human Health Risk Evaluation

Attachment 3 - Laboratory Analytical Data Report for Imported Soils  
Attachment 4 - Waste Disposal Information

## References

ARCADIS. 2010a. Implementation of the Toxic Substances Control Act Self-Implementing Cleanup Notification at the Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California. August 12.

ARCADIS. 2010b. Additional Excavation Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California. September.

ARCADIS. 2011a. Soil Sampling Plan for Soil to be Imported for Use in the Proposed Landscaped Areas at the Former Pacific Electric Motors Facility, 1009 66th Avenue, in Oakland, California. June.

ARCADIS. 2011b. Implementation of the Toxic Substances Control Act Self-Implementing Cleanup Notification at the Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California. August 12.

LFR Inc. (LFR). 2009a. Revised Corrective Action Plan, Proposed Aspire School Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case No. RO0000411). July 17.

LFR. 2009b. 1009 66th Avenue, Oakland, California Soil and Concrete Sample Location Rational. October 19.

LFR. 2009c. Toxic Substance Control Act Self-Implementing Cleanup Notification and Certification Former Pacific Electric Motors Facility 1009 66th Avenue in Oakland, California. October 23.

U.S. Environmental Protection Agency (U.S. EPA). 2011. Aspire Public School, 1009 66th Avenue, Oakland, California – USEPA November 13, 2009 Approval of Polychlorinated Biphenyls Cleanup Notification under Toxic Substances Control Act – New Request for Additional Cap Modification. June 16.

Attachment 1

Laboratory Analytical Data for  
Soil Samples

*(provided on CD)*

Attachment 2

Revised Human Health Risk  
Evaluation

Attachment 3

Laboratory Analytical Data  
Report for Imported Soils

Attachment 4

Waste Disposal Information



Kettleman Hills Landfill Summary  
(Non-RCRA and TSCA Soil) and  
TSCA Manifests

Keller Canyon Landfill Summary  
(Construction Debris)

Vasco Road Landfill Summary  
(Non-Hazardous Soil)